

The role of higher vocational pathways in enabling social mobility and supporting 'vibrant' regional economies: an analysis of current trends and debates shaping English policy and practice

Ann-Marie Bathmaker, University of Birmingham

a.m.bathmaker@bham.ac.uk

Abstract

This paper examines the focus on vocational pathways and what is referred to as 'higher vocational education' (HIVE) (BIS, 2011) in current education and training policy in England, as one example of international debates about diversity and diversification in tertiary and higher education (Teichler, 2008). The term higher vocational education has recently appeared in English policy documents, and is associated with an apparent increased policy interest in a range of higher level vocational education and training (VET), including short cycle higher education pathways leading to sub-Bachelor degree awards, such as the Foundation degree. It is suggested that different pathways and qualifications are needed on the one hand to meet the diverse needs of an expanded student/learner population, and on the other, to respond to the needs of knowledge economies. These vocationally-oriented forms of provision are identified as a means of enabling social mobility amongst the intermediate classes, and also supporting vibrant regional economies.

This is a period of rapid and radical change to the vocational education and training landscape and the higher education system in England, that is paralleled by reforms in a range of other countries. It is therefore a crucial moment in time to debate the role and purpose of vocational pathways, including higher vocational pathways. Critical understanding of the policy environment for higher vocational education is essential. We need to understand who decides 'what matters' at a policy level, and we also need to understand how higher vocational education policy is enacted, that is, how HIVE pathways are constituted and shaped through local activities and practices. These combined understandings can provide a nuanced analysis of the contribution of provision such as English HIVE to social mobility and to regional economies.

Introduction

When the Conservative-Liberal Democrat Coalition Government came to power in 2010 in the UK, New Labour's policy goal of increasing and widening participation in higher education was immediately called into question. Vince Cable announced after the election:

For many individuals and for the country there may be more to be gained from vocational education in FE – which is in many respects, the

area where we will tackle some of our key deficits as a country in intermediate skills. Apprenticeships rather than degree courses? [...] The reality is that our best FE colleges and advanced apprenticeships are delivering vocational education every bit as valuable for their students and the wider economy as the programmes provided by universities. [...] [T]here could be a law of diminishing returns in pushing more and more students through university. (Vince Cable, 2010)

A similar challenge to Obama's "College for All" policy has emerged in the USA. A 2013 news report claims that there is:

... mounting evidence that the college-for-all model isn't working. Nearly half of those who start a four-year degree don't finish on time; more than two-thirds of those who start community college fail to get a two-year degree on schedule. Even students who graduate emerge saddled with debt and often without the skills they need to make a decent living. (Jacoby, Los Angeles Times, 3.12.13)

While higher education retains a significant role in education policy, there is a groundswell of opinion amongst policymakers, some researchers, and the media, that "College for All", understood as higher education participation for a large number of the population, is no longer the way forward, and that instead we should place greater emphasis on vocational education pathways in the future (Cable, 2014, Noddings, 2011).

The focus of this paper is on current, renewed policy interest in vocational education in England, in particular 'higher vocational education', a term used by the UK's Department for Business, Innovation and Skills in their recent further education and skills system reform plan (DBIS, 2011). The central focus is to consider how higher vocational education (HIVE) may contribute to two significant policy agendas for the current Coalition government: the social mobility agenda and regional economic strategies. These two agendas are explicitly associated with higher vocational education in the government's reform plan. The goal to improve social mobility stated in the government's 2011 White Paper on HE is specifically cited in the further education reform plan, and the following comment is made about the regional economic role of English further education colleges:

Colleges have a distinctive mission in delivering locally-relevant, vocational and technical higher-level skills across the country. (DBIS, 2011: 13)

However, when looking at documents from the UK's Social Mobility and Child Poverty Commission, and at economic targets for two Local Enterprise Partnerships (one in the

Midlands and one in the North of England)¹, it becomes apparent that, firstly, higher vocational education does not feature as part of overall social mobility strategies, and secondly, HIVE is also absent from regional economic strategies. This silence has implications for the value, role and purpose of higher level vocational pathways in England, and the paper explores this issue by firstly locating current interest in higher vocational education in a wider international context, and then examining the specific instance of England further.

International interest in vocational and higher education

The importance of skill formation for societal, organizational and individual needs is now a global concern, particularly in the light of fast-moving changes in the modes and conditions of production. In the 1990s these changes were theorised as a move from Fordism to Post-Fordism (Brown and Lauder, 1992). Now terms such as cognitive capitalism are used to highlight the importance of knowledge-based human capital, and digital capitalism to refer to the role of computer technologies in work practices; less benignly, it is suggested that we are seeing the rise of digital Taylorism, associated with routinized, lower-skilled and poorly paid work as a result of technological advances (Avis, 2013).

In this context, Powell and Solga (2010: 705) suggest that for policymakers

One of the crucial challenges is the question of whether to invest in general post-secondary education or in specific vocational training.

Their comment suggests that the question is understood as one of either/or: investment either in general academic education, or in vocational training. The significance of such decisions in a context of globalised economies in competition with one another is emphasised by Robertson (2008):

higher education has become regarded as a critical 'motor' for national and regional competitiveness in the global economy, and a global battle has begun for the minds and markets to support this. (Robertson, 2008: 9)

Over and above national interests, supra-national organisations such as the European Union and the OECD have been increasingly involved in shaping and steering developments during the 2000s. These organisations are keen to establish member countries as successful competitors in the high-skills, knowledge economies game. With regard to the EU for example, the development of the European Higher Education Area as part of the Lisbon strategy for competitiveness (2005) has allowed higher education to be co-opted as 'a platform for the European Union's wider regionalising and globalising strategies' (Robertson, 2008: 4).

¹ Local enterprise partnerships are partnerships between local authorities and businesses formed in 2011 by the UK's Department for Business, Innovation and Skills to help determine local economic priorities and lead economic growth and job creation within a given local area.

Qualification frameworks as a lever to shape educational pathways

Qualification frameworks have become a key means of influencing and shaping educational pathways. Even if intended as a means of facilitating comparisons of education across countries, such as the UNESCO International Standard Classification of Education (ISCED), a consequence of such frameworks is to shape thinking about what educational pathways look like, and to create normative models of appropriate pathways.

In Europe, the development of a European Qualifications Framework for lifelong learning, covering general and vocational as well as higher education, has been used to create qualification pathways that are comparable across European countries. Its purposes are defined as follows:

The European Qualifications Framework for lifelong learning (EQF) provides a common reference framework which assists in comparing the national qualifications systems, frameworks and their levels. It serves as a translation device to make qualifications more readable and understandable across different countries and systems in Europe, and thus promote lifelong and life-wide learning, and the mobility of European citizens whether for studying or working abroad.

http://ec.europa.eu/eqf/home_en.htm Accessed 4 February 2014.

It involves all EU 28 member states (2014 total). National qualification frameworks in individual countries are expected to align their frameworks with the EQF.

The EQF is used not just to align qualifications across countries, but also as a mechanism to reform the ways in which individual countries create opportunities for access, transfer, completion and progression through qualification pathways, particularly for traditionally under-represented populations (Walsh, 2013). The EU 2007 London Communiqué for example emphasised that the 'social dimension' in HE should include efforts to create more flexible learning pathways into and within HE, and noted that permeability between general and vocational education does not yet exist in all European Higher Education Area (EHEA) countries (Walsh, 2013)².

The reference to the EHEA indicates how the EQF contributes to a much bigger project of articulation in relation to higher education pathways. The European Higher Education Area, launched in 2010 (and developed out of the Bologna Process), goes beyond members of the EU and involves 47 countries. It aims to not just create comparability and compatibility among HE systems and institutions, but seeks to

² EHEA countries divide into two groups:

22 HE systems have at least one alternative route to HE (mainly Western Europe)

25 require an upper secondary school leaving certificate as the only route into higher education (Walsh, 2013)

‘promote mobility, increase academic recognition and attract students and staff from around the world to Europe.’ <http://www.weforum.org/best-practices/talent-mobility/bologna-process-european-higher-education-area-ehea> Accessed 10 March 2014. In other, words, qualification pathways that are held in high esteem can be used in a competitive education market to attract students (and staff) to Europe, as well as encourage countries to align their practices to European norms.

What about higher vocational education?

Although the EQF appears to bring together all types of qualifications on an equal basis, the UNESCO classification system ISCED provides a clear example of the distinctions made internationally between the academic and vocational. ISCED’s 2011 classification distinguishes between general and vocational at lower and upper secondary, post-secondary non-tertiary and short-cycle tertiary education. At Bachelor level, the distinction continues, but now defined as academic and professional (<http://www.uis.unesco.org/Education/Pages/international-standard-classification-of-education.aspx> Accessed January 2014).

The separation of academic (or general) and vocational in the ISCED classification reflects how HE and VET tend to be addressed separately in national and international policy³. However, there is now evidence of a growing focus on the overlapping space of higher level VET and HE. In 2012 the OECD launched a thematic review of postsecondary vocational education and training entitled *Skills beyond School*, which continues at the time of writing in 2014^a. In Europe, the notion of ‘hybridization’, which includes both hybrid organizations and qualifications, has arisen as a means to explore the HE-VET interface.

How pathways in this overlapping space are conceived and enacted suggests both permeability between the fields of higher and vocational education, but also the possibility of an intermediate field or sector. Examples from different countries suggest that hybrid pathways take different forms in particular countries. This applies to apparently analogous systems as well as those that are seen as quite different. For example, recent comparisons of hybridization in German-speaking countries (Germany, Austria and Switzerland) show that hybrid organizational forms take distinct and different forms in each country: the dual study programs in Germany, the *berufsbildende höhere Schule* (higher vocational school with higher education entrance qualification, BHS) in Austria, and the Swiss organizational configuration of universities of applied sciences that directly build on dual apprenticeship training and a vocational baccalaureate^b (Graf, 2013; Powell and Solga, 2010).

³³ The OECD has a higher education programme, and a separate strand of work on vocational skills (skills.oecd). In Europe, work on higher education is associated with the Bologna process, while work on VET falls under the remit of the Copenhagen process.

However, despite their differences, Graf (2013) suggests that these hybrid organizational forms in German-speaking countries could be seen as constituting 'a new premium sector' in terms of 'social prestige and labor market prospects.' He argues:

these hybrids are quite unique in international comparison. This is mainly because they build on a level of parity of esteem between VET and HE that cannot be found in more school-based VET systems like in France or VET systems that are more oriented towards "learning-on-the-job" like in the UK or the US. (Graf, 2013)⁴

In contrast to these examples of distinct and different pathways and structures, suggesting the possibility of a distinctive higher vocational field, in Australia the Review of Australian Higher Education (Bradley et al. 2008) has created a single tertiary education sector, which embraces HE and vocational post-secondary education. Gale et al (2013) suggest that this could give rise to a new 'tertiary education field', with new competition within higher education prompted by vocational degrees. They propose that one tertiary education field, with academic and vocational degrees competing more equally for distinction, suggests new relations between Technical and Further Education (TAFE) institutions and universities, and new opportunities for students to choose between degrees from different institutions. In this context, producers and consumers of degrees will have to make strategic choices and decisions based on the imagined future value of different degrees beyond the field.

Initial qualification pathways vs lifelong learning pathways

A further significant influence on the shaping of qualification pathways involves distinctions between initial qualification pathways for young people, and adult and lifelong learning pathways (even though the same qualifications may be used across these different populations). Eraut (2001) defines initial qualification pathways as follows:

An Initial Qualification Pathway (IQP) is here defined as a more or less uninterrupted sequence of qualification-based learning from the age of fourteen. It may terminate on entry to full-time employment, on completion of an apprenticeship or traineeship, or with a qualification started within a year or two of taking up full-time employment. (Eraut, 2001: 88)

⁴ Despite Graf's claim, it should be noted that structures and organisations in Sweden and Holland suggest that the status of higher vocational pathways is also high in these countries. Sweden has a National Agency for Higher Vocational Education, while Holland has a system of universities of higher professional education.

Initial qualification pathways are associated with enduring concerns about education to work transitions for young people, and the ways in which different pathways are valued and therefore create or constrain future life chances. In relation to young people's transitions, Raffe (2013) identifies a number of similarities and differences in recent patterns and trends across Europe and OECD countries, all of which emphasise the increasing importance of higher levels of education:

- ▶ Transitions have become more prolonged, more differentiated, less linear and less predictable.
- ▶ Levels of participation and attainment in education have risen
- ▶ Processes of differentiation and selection formerly associated with secondary education are increasingly associated with higher education.
- ▶ The average age of entry to the full-time labour market has risen
- ▶ HE graduates have maintained or increased their relative advantage (if not their absolute position) in the transition process
- ▶ Unqualified school leavers, despite the decline in their numbers, continue to suffer the greatest disadvantage
- ▶ Children of working-class or unemployed parents, migrants and ethnic minority groups are disadvantaged; even when they perform well in education their gains may not carry forward into the labour market.
- ▶ Females have overtaken males in terms of educational attainment but they experience less favourable labour-market outcomes than males. (Raffe, 2013: 9)

While participation in learning is seen as equally important for adults, additional issues arise for adult learning pathways. A recent report for NIACE on adult lifelong learning in the UK (Schuller and Watson, 2009) identifies persistent concerns related to adult participation trends in the previous ten years:

- ▶ Participation is very closely related to social class. The higher up your socio-economic position is, the more likely you are to take part in learning.
- ▶ Attachment to work also appears continually as a powerful factor. Even being in a low-ranking job gives you a better chance of learning than being out of the labour market altogether.
- ▶ The younger you are, the more likely you are to participate. The age pattern is one of direct decline, far greater than could be explained by any age-related decline in individual capacity.
- ▶ Having a disability is a major barrier to participation.

- ▶ Overall participation levels are high by European standards, but the average duration of formal education and training is relatively short. (Schuller and Watson, 2009: 5)

They suggest that education pathways for lifelong learning need to involve the following:

- ▶ A genuinely lifelong view means that a four-stage model – up to 25, 25–50, 50–75, 75+ – should be used as the basis for a coherent systemic approach to lifelong learning.
- ▶ People in the first stage (up to 25, but starting for our purposes at 18) should be looked at as a whole, with all of its members having claims to learning and development as young people.
- ▶ Learning in the second stage (25–50) should aim at sustaining productivity and prosperity, but also at building strong family lives and personal identity. This is part of a new mosaic of time with different mixes of paid and unpaid work and learning time.
- ▶ For those in the third stage, training and education opportunities should be greatly enhanced. Policy, including learning policy, should treat 75 as the normal upper age limit for economic activity (not linked to state pension age).
- ▶ The emergence of the Fourth Age means that we urgently need to develop a more appropriate approach to the curriculum offer in later life.
- ▶ 25, 50 and 75 should be identified and used as key transition points, each requiring access to advice and guidance about life planning. (Schuller and Watson, 2009: 6)

This differentiation of concerns related to initial vocational education and training and lifelong learning adds further complexity to the ways in which we need to think about the role, purpose and value of higher vocational pathways, but also suggests that educational inequalities for different groups of people are persistent through the lifecourse.

The next section considers higher vocational education in the context of England, and identifies a number of key issues that are significant in shaping the meaning and value of higher vocational education in this country.

Renewed UK policy interest in vocational education

Since the UK's coalition government came to power in 2010 there has been extensive policy activity in relation to vocational education. This includes:

- 1 A review of vocational education for 14-19 year olds in England by Professor Alison Wolf
- 2 A review of Apprenticeships by Doug Richard

- 3 A government response to the Wolf and Richard reviews
- 4 A Commission on Adult Vocational Teaching and Learning, led by Frank McLoughlin (Principal of City & Islington College)
- 5 A review of the adult vocational qualifications system led by Nigel Whitehead of BAE Systems^c.

A further part of this policy activity involves higher vocational education, which is to be promoted through what are called ‘career pathways’ for higher level skills and progression (DBIS, 2014: 8)^d. These involve universities and employers and appear to replace some of the work of Lifelong Learning Networks, introduced in 2004 by the former Labour Government to support and enable progression into and through vocational education through regional partnerships of universities, colleges and employers, but whose funding ceased in 2012.

What is higher vocational education in England?

Despite what appears to be a growing interest in vocational education, and also *higher* vocational education in England, defining what it means is not straightforward, reflecting a wider problem of ‘shifting and often messy conceptualisations of VET’ (Avis, 2012: 4). Whilst various forms of higher level vocational education and qualifications have been offered for many years by further education colleges, universities, and other training providers, the term ‘higher vocational education’ to define this provision has appeared only recently in policy documents.

The main way of defining HIVE is through the qualifications that are deemed to constitute HIVE. These qualifications are generally distinct from ‘academic’ or ‘general’ qualifications, and usually deemed to represent sub-Bachelor, or short cycle higher education. In England this means that HIVE is associated with qualifications such as the Higher National Diploma (HND), and more recently with two year Foundation degrees that were introduced in 2001, both types of qualification linked to intermediate-level occupations or the mid-skilled labour market.

In the UK’s Department for Business, Innovation and Skills further education reform plan, where higher vocational education is named, BIS lists a number of qualifications that constitute higher vocational education including HNCs, HNDs, Foundation Degrees, degrees, apprenticeships and professional awards, as well as ‘non-prescribed HE’ (the latter refers to education at levels 4 to 7 which is not funded by the Higher Education Funding Council for England (HEFCE)).

A Commission on the future of higher education led by the Institute for Public Policy Research (IPPR, 2013) also uses qualifications as a means of defining HIVE, suggesting that higher vocational education comprises qualifications at level 4 and above, including: full-time degree programmes, professional qualifications, vocational qualifications (including NVQs), higher apprenticeships and other bespoke qualifications (IPPR, 2013: 46).

A research report ten years earlier (Little et al, 2003) entitled *Vocational higher education – does it meet employers’ needs?* defines vocational higher education as ‘all sub-degree HE provision’ (ibid: 3 (my emphasis), see 4-5 for more detailed explanation), thus excluding Bachelor degree qualifications. What this report also goes on to do, is to make an explicit link between HIVE and particular levels of occupation in the UK Standard Occupational Classification (2000 and 2010), namely associated professional and higher technician occupations (ibid: 2), which represent the third of eight groups in the occupational classification hierarchy^e.

But while higher vocational education may be defined in terms of particular qualifications, it is also associated with a number of other key features. In England, the institutional location of HIVE activities is important in positioning HIVE. Both BIS and the IPPR emphasise the central role of English further education colleges in offering HIVE. BIS suggests that the title college of further and higher education could be used for these institutions (DBIS, 2011: 13), while the IPPR proposes re-introducing the title ‘polytechnic’ (IPPR, 2013: 15). However, both also associate higher vocational education with low-cost, local provision. So, for example, the IPPR proposes the expansion of HE through:

locally available, flexible and low-cost courses, aimed in particular at those who seek vocational-oriented learning. We propose the creation of an additional 20,000 student places, restricted to new £5,000 ‘fee only’ degrees, focused on vocational learning, and offered to local students who would be eligible for fee loans but not maintenance support. (IPPR, 2013: 9)

On the one hand, therefore, there are proposals to raise the status of colleges that offer higher vocational education through renaming or ‘rebranding’ them, but on the other, a combination of low cost provision, the association with intermediate tiers in the occupational classification, and the central role of FE colleges rather than higher education institutions and universities, all serve to position HIVE in a hierarchical relationship with traditional forms of higher education.

Thus higher vocational education in England, based on the various features outlined above, involves:

- 1 A range of education and training qualifications at levels 4 and above, including foundation degrees, and sometimes Bachelor degrees.
- 2 Qualifications that lead to particular levels of occupation, namely associated professional and higher technician.
- 3 Provision that is offered by providers outside the higher education sector, and in particular further education colleges.
- 4 Provision that is local and low-cost.

A major subtext in these constructions of a meaning for higher vocational education, including considerations of whether it includes bachelor degrees as well as foundation degrees, and whether FE colleges (even those renamed polytechnics) rather than universities are the location for such provision, is the long history of how vocational education is positioned in relation to 'academic' or 'general' education in England. What HIVE is tacitly defines what HIVE in England is not:

It is not general or academic education

it is not education for the professions (vocationally-oriented degrees such as law, medicine, engineering, pharmacy)

it is not high cost compared to other higher education provision

it is not selective, instead it seeks to recruit students.

Challenges for higher vocational pathways in the English context

This positioning of HIVE creates a number of challenges in the English context, particularly in relation to the role of HIVE pathways in regional labour markets and their contribution to social mobility. Firstly, as numerous researchers emphasise, skills are not as important to employers as policymakers continue to claim (Ashton and Sung (2006); Grugulis (2008); Keep and Mayhew (1999); Keep et al (2006); Pring et al (2009). In addition, employers are not a homogeneous group and there are different labour markets, not one labour market (Gleeson and Keep, 2004). Moreover, one high-skills, knowledge-driven economy across the UK is an illusion (Brown and Hesketh 2004; Nolan and Wood 2003). Instead:

There is some evidence [...] that good, high-paying, high-skill jobs and low-paid, low-skilled work are both becoming more concentrated in certain localities, leading to a polarisation of the employment options facing some communities. (Pring et al, 2009: 141. See also Green and Owen, 2006)

Of particular concern in England is that there are few or no incentives in the labour market, through for example license to practise, and this applies to intermediate qualifications and technician-level workers in particular. Instead, there is continually fluctuating demand for intermediate skill levels, so that while in 2013 employers reported shortages in skilled trades such as plumbing and in health and social care (Winterbotham et al, 2013), this may well change in a year's time⁵.

Given these challenges, it is perhaps not surprising that higher vocational education is overlooked in commentaries on social mobility. While there is talk of a level 3 premium and an HE premium (see Birdwell et al, 2011, for example), however precarious these

⁵ see Wheelahan (2013) for an analysis of how these issues play out in education-labour market connections in Australia.

may be, higher vocational education is not mentioned at all. As the Social Mobility and Child Poverty Commission comments:

Public policy has for decades focused on university education, not the 'other 50 per cent' who go on to take vocational education or work, and who face lower funding and greater complexity in their choices. The UK has longstanding problems in building a vocational route that is high volume, and commands parity of esteem with academic pathways. Whereas countries like Germany and Australia accord high status to vocational education and apprenticeships as a route into employment, the UK has placed its bets on higher - rather than vocational routes. (Social Mobility and Child Poverty Commission, 2013: 23)

The possibilities of a single tertiary education field where vocational as well as academic qualification pathways are valued, or hybrid pathways that have high status, seem a long way from the current conditions and context facing English higher vocational education. Instead, Eraut's comment from over ten years ago still seems to hold true today:

Most vocational qualifications have been gazumped by general educational qualifications that have higher selection value, and their relative esteem is self-perpetuating. (Eraut, 2001: 88)

In the English context, *higher* level vocational education might alternatively be defined as *lower* level higher education, which runs the risk of becoming a form of diversion and warehousing (Roberts, 2013), rather than a set of pathways that opens up opportunities for individuals and supports vibrant regional economies.

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ENDNOTES

^a **OECD reviews of tertiary and vocational education and training**

1) OECD review of tertiary education policy 2004-2008

The OECD Thematic Review of Tertiary Education policy was conducted over the 2004-08 period in collaboration with 24 countries around the world.

2) OECD thematic review of initial VET 2007-2010

Learning for Jobs, the thematic review of initial VET, involved 17 country reviews across the globe. The final comparative report was published in 2010.

3) OECD thematic review of postsecondary vocational education and training 2012-(ongoing)

Skills beyond School - the OECD policy review of postsecondary vocational education and training, looks at the preparation of younger people and adults for technical and professional jobs. Key policy challenges include responsiveness to labour market needs, alongside inclusion, access, career guidance, finance, governance, teaching quality, integration with workplace learning, articulation with other sectors of education, and qualifications and assessment. It aims to build on the Learning for Jobs thematic review of initial VET policy, which involved 17 country reviews and a comparative report. The review forms part of the horizontal OECD Skills Strategy linked to PIAAC and other initiatives

^b **Hybridization in Germany, Austria and Switzerland**

(1.) Dual study programs combine in-company work experience with tertiary studies at vocational academies (*Berufsakademien*), cooperative universities (*Duale Hochschulen*), universities of applied science, or universities. That is, there are always at least two learning environments. Furthermore, in dual study programs, students and firms are bound by a training, part-time, practical training, or internship contract and students earn a salary. Dual studies are usually offered at Bachelor degree level.

(2.) The *berufsbildende höhere Schule* (BHS), which takes one year longer than the general academic schools to complete, offers a five-year course that is open to everyone who has successfully completed the eighth school grade. The BHS leads to a double qualification, namely an academic baccalaureate and a VET diploma. The academic

baccalaureate provides access to HE, while the VET diploma grants the right to exercise higher-level occupations. After three years of relevant professional experience, graduates from the BHS of engineering, arts and crafts and the colleges of agriculture and forestry can apply for the title “Engineer” (*Standesbezeichnung Ingenieur*).

(3.) The Swiss universities of applied sciences were deliberately designed for vocationally trained people and are legally obliged to be practice oriented. Crucially, their governance entails elements of traditional processes in VET. Swiss universities of applied sciences are directly linked to dual apprenticeship training via the vocational baccalaureate. The Swiss vocational baccalaureate, which is regarded as the ideal path (“*Königsweg*”) into a Swiss university of applied sciences, builds a bridge between dual apprenticeship training and universities of applied sciences. In sum, the Swiss hybrid organizational configuration of university of applied sciences, dual apprenticeship and vocational baccalaureate combines learning processes from both VET and HE and links upper-secondary VET with post-secondary HE (see Graf 2013 for details).

c Reviews of vocational education in England since 2010

1 A review of vocational education for 14-19 year olds in England by Professor Alison Wolf

This found that many vocational qualifications had low labour-market value and employer recognition. The review recommended funding coherent study-programmes rather than qualifications, and that only substantial qualifications with clear employer endorsement should be recognised in performance tables.

2 A review of Apprenticeships by Doug Richard

The review recommended a move away from Apprenticeship frameworks based on groups of qualifications towards a more holistic approach driven by high-level standards – which define the things an Apprentice should be able to do and know – developed by employers in specific sectors.

3 A government response to the Wolf and Richard reviews

Rigour and Responsiveness, a Government document summarised the responses to the Wolf and Richard reviews and identified key priorities for reform of the skills system.

4 A Commission on Adult Vocational Teaching and Learning, led by Frank McLoughlin (Principal of City & Islington College)

The Commission emphasised the role of qualifications as a “kite-mark” of the quality of a learning programme and emphasised the importance of curriculum and programme design; business and employer engagement and flexibility for locally tailored elements to sit alongside any national core curriculum.

5 A review of the adult vocational qualifications system led by Nigel Whitehead of BAE Systems.

This found the current system to be over-complex and lacking in clear accountability structures and recommended that the regulation of the qualifications should be strengthened to focus vocational qualifications more clearly on the needs of employers and individuals. (BIS, 2014: 4)

^d In a 2014 document, the UK Department for Business, Innovation and Skills states:

The Government will be building on its earlier work to encourage progression by developing the concept of career pathways, in which each step provides a basis for proceeding to the next level. The basic principles are: (p8)

- Qualifications will be sufficiently rigorous and broad that they provide a strong basis for progression.
- Universities should be engaged (where possible and appropriate) in the design and approval of vocational qualifications.
- Where a current qualification does not provide a basis for progression to the next level, it should be broadened or deepened or an intermediate step should be developed.
- Funding should support progression.
- We should work with employers to encourage the development of career pathways. (BIS, 2014: 8-9)

^e **Job description for associate professional and technical occupations**

This major group covers occupations whose main tasks require experience and knowledge of principles and practices necessary to assume operational responsibility and to give technical support to Professionals and to Managers, Directors and Senior Officials.

The main tasks involve the operation and maintenance of complex equipment; legal, business, financial and design services; the provision of information technology services; providing skilled support to health and social care professionals; serving in protective service occupations; and managing areas of the natural environment. Culture, media and sports occupations are also included in this major group. Most occupations in this major group will have an associated high-level vocational qualification, often involving a substantial period of full-time training or further study. Some additional task-related training is usually provided through a formal period of induction.

Source: the UK Office for National Statistics Standard Occupational Classification 2010

<http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dev3/data/SingleClass.html?soc=3> and
http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dev3/ONS_SOC_hierarchy_view.html Accessed 10 January 2014

Descriptors defining levels in the European Qualifications Framework (EQF)

Level	Knowledge	Skills	Competence	Example
Level 1	Basic general knowledge	basic skills required to carry out simple tasks	work or study under direct supervision in a structured context	
Level 2	Basic factual knowledge of a field of work or study	basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	work or study under supervision with some autonomy	lower secondary school (FI)
Level 3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems	(GCSE Grades A*-C UK)
Level 4	Factual and theoretical knowledge in broad	a range of cognitive and practical skills required to	exercise self-management within the guidelines of work or	Abitur , vocational school

	contexts within a field of work or study	generate solutions to specific problems in a field of work or study	study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities	
Level 5 ^[1]	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others	HND
Level 6 ^[2]	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups	Honours Bachelor Degree , vocational university German State-certified Engineer, Business Manager and Designer (Fachhochschule) Bachelor, City and Guilds Graduateship (GCGI), German Fachwirt , German Operative Professional
Level 7 ^[3]	<ul style="list-style-type: none"> Highly specialised knowledge, some of 	specialised problem-solving skills required in research and/or innovation in order to	manage and transform work or study contexts that are complex, unpredictable and	Masters , vocational university (Fachhochschule) Masters, City and Guilds (MCGI)

	<p>which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research</p> <ul style="list-style-type: none"> • Critical awareness of knowledge issues in a field and at the interface between different fields 	<p>develop new knowledge and procedures and to integrate knowledge from different fields</p>	<p>require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams</p>	
Level 8 ^[4]	<p>Knowledge at the most advanced frontier of a field of work or study and at the interface between fields</p>	<p>the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice</p>	<p>demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research</p>	<p>Doctorate</p> <p>City and Guilds Senior Awards - Fellowship</p>

1. The descriptor for the higher education short cycle (within or linked to the first cycle), developed by the Joint Quality Initiative as part of the Bologna process, corresponds to the learning outcomes for EQF level 5.
2. The descriptor for the first cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 6.

3. The descriptor for the second cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 7.
4. The descriptor for the third cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 8.

http://en.wikipedia.org/wiki/European_Qualifications_Framework Accessed 11 February 2014.

ISCED 2011 levels of education and comparison with ISCED 1997

Level	ISCED 2011	Description	Corresponding ISCED 1997 level
0	Early childhood Education (01 Early childhood educational development)	Education designed to support early development in preparation for participation in school and society. Programmes designed for children below the age of 3.	None
0	Early childhood Education (02 Pre-primary education)	Education designed to support early development in preparation for participation in school and society. Programmes designed for children from age 3 to the start of primary education.	Level 0: Pre-primary education.
1	Primary education	Programmes typically designed to provide students with fundamental skills in reading, writing and mathematics and to establish a solid foundation for learning.	Level 1: Primary education or first stage of basic education.
2	Lower secondary education	First stage of secondary education building on primary education, typically with a more subject-oriented curriculum.	Level 2: Lower secondary education or second stage of basic education
3	Upper secondary	Second/final stage of secondary education preparing for tertiary education and/or providing	Level 3: Upper secondary education

Level	ISCED 2011	Description	Corresponding ISCED 1997 level
	education	skills relevant to employment. Usually with an increased range of subject options and streams.	
4	Post-secondary non-tertiary education	Programmes providing learning experiences that build on secondary education and prepare for labour market entry and/or tertiary education. The content is broader than secondary but not as complex as tertiary education.	Level 4: Post-secondary non-tertiary education
5	Short-cycle tertiary education	Short first tertiary programmes that are typically practically-based, occupationally-specific and prepare for labour market entry. These programmes may also provide a pathway to other tertiary programmes.	Level 5B: First stage of tertiary education: typically shorter, more practical/technical/occupationally specific programmes leading to professional qualifications.
6	Bachelor or equivalent	Programmes designed to provide intermediate academic and/or professional knowledge, skills and competencies leading to a first tertiary degree or equivalent qualification.	Level 5A: First stage of tertiary education: largely theoretically based programmes intended to provide qualifications for gaining entry into more advanced research programmes and professions with higher skills requirements.
7	Master or equivalent	Programmes designed to provide advanced academic and/or professional knowledge, skills and competencies leading to a second tertiary	Level 5A: First stage of tertiary education: largely theoretically based programmes intended to provide qualifications for gaining entry into more advanced research programmes and

Level	ISCED 2011	Description	Corresponding ISCED 1997 level
		degree or equivalent qualification.	professions with higher skills requirements.
8	Doctoral or equivalent	Programmes designed primarily to lead to an advanced research qualification, usually concluding with the submission and defence of a substantive dissertation of publishable quality based on original research.	Level 6: Second stage of tertiary education (leading to an advanced research qualification).

ISCED 2011 categorisations (abbreviated)

2 LOWER SECONDARY EDUCATION

24 General

25 Vocational

3 UPPER SECONDARY EDUCATION

34 General

35 Vocational

4 POST-SECONDARY NON-TERTIARY EDUCATION

44 General

45 Vocational

5 SHORT-CYCLE TERTIARY EDUCATION

54 General

55 Vocational

6 BACHELOR'S OR EQUIVALENT LEVEL

64 Academic

65 Professional

UNESCO developed the International Standard Classification of Education (ISCED) to facilitate comparisons of education statistics and indicators across countries on the basis of uniform and internationally agreed definitions. In 2011, a revision to ISCED was formally adopted by UNESCO Member States. The product of extensive international and regional consultations among education and statistical experts, ISCED 2011 takes into account significant changes in education systems worldwide since the last ISCED revision in 1997.

<http://www.uis.unesco.org/Education/Pages/international-standard-classification-of-education.aspx> Accessed January 2014